

## **Response to Comments Stakeholders and Interested Parties**

On Thursday, August 12, 2004, the Montana Department of Environmental Quality held a stakeholder's meeting in Helena, Montana, to discuss the forthcoming rules revision proposal for concentrated animal feeding operations (CAFOs). An invitation to this meeting, along with draft copies of the proposed rule amendments, were mailed to existing CAFO permittees, stakeholders, and the Water Protection Bureau's interested party list on July 22, 2004.

Eighteen people attended the meeting in Helena. Additionally, five people submitted written comments to the Department regarding the proposed rules. A summary of the comments received and the Department's response to each, is as follows:

### *Permitting Issues*

**Comment #1:** "Circular DEQ 9 Page 5, paragraph 3: It states that to demonstrate compliance, 'CAFOs must submit Plans and Specifications prepared by a Professional Engineer licensed in the state of Montana.' I have worked with many landowners, some of whom have college degrees, may even be an engineering degree and therefore question the requirement for a professional licensed engineer. Department of Environmental Quality should have the appropriate licensed people within their department to determine the completeness of the plans. This could be an unnecessary financial burden on producers." Gene Surber, Montana State University Extension Service

"Page 10, Information to be Submitted, 1<sup>st</sup> paragraph, 3<sup>rd</sup> sentence. 'As built P&S are required for existing animal waste management systems.' It is an unnecessary expense to require an existing operations that have not had any violations, to send in designed criteria by a professional engineer?" Gene Surber, Montana State University Extension Service

**Response #1:** Given the degree of technical knowledge necessary to properly design a waste management system, the Department will require the submittal of plans and specifications prepared by a licensed professional engineer. The effluent limitation guidelines applicable to large CAFOs require waste control facilities to be properly designed, constructed, operated, and maintained. In addition, CAFOs are required to document the current design of any manure or litter storage structures, including volume for solids accumulation, design treatment volume, total design volume, and approximate number of days of storage capacity.

A properly designed waste management system includes site grading to divert runoff and structures to collect, control, and direct flow of runoff and process wastewater to a properly sized waste control structure. Additional supporting design information, a certification statement stating the animal waste management system was constructed as designed, and an operation and maintenance plan will also be required to be submitted. This information will be used to evaluate a facility's ability to comply with the applicable effluent limitations and allow the Department to fully implement the CAFO regulations so that water quality is protected. 75-5-402, Montana Code Annotated (MCA), states, "The Department shall: ...(2) examine plans and other information needed to determine

whether a permit should be issued or suggest changes in plans as a condition to the issuance of a permit.” Several states in the west and midwest are requiring CAFOs to submit Plans and Specifications prepared by a licensed professional engineer. The Department will provide flexibility to existing operations by including compliance schedules within each permit that allows a period of years to submit as-built P&S.

**Comment #2:** “Page 11. bullet 6. ‘A typical cross section of the waste control structure(s);. I question the need of putting that in this document as a requirement when we have all the other measurements required.” Gene Surber, Montana State University Extension Service

**Response #2:** Because the Department will be reviewing these Plans and Specifications for conformance with the listed design criteria, and not “approving” animal waste management system designs, some of the information to be submitted as listed in the proposed circular may be unnecessarily burdensome. Therefore, the Department proposes to amend the circular to require submittal of only the information necessary to ensure that design criteria and applicable effluent limitations can be met.

**Comment #3:** Two or three producers voiced concerns that encroaching subdivisions and developments near their CAFOs are resulting in complaints being filed against them. The producers asked what effects these complaints could have on permit issuance and compliance. August 12, 2004 Stakeholder Meeting in Helena, MT

**Response #3:** The Department has a responsibility to investigate all environmental complaints. If a complaint is received, a Department representative will investigate the complaint to determine whether any violations have occurred and if so what corrective actions need to be taken. Under 75-5-605, MCA, it is unlawful to violate any provision set forth in a permit. Therefore, permitted CAFOs are expected to comply with all conditions of their permit. If, during a complaint investigation, permit violations are discovered, corrective actions will be required. If, on the other hand, no violations are discovered, the complaint is closed and no further actions are necessary. Permit coverage may, in fact, provide some protection from complaints because concerned citizens are often reassured that the regulatory agency is monitoring the site.

As to permit issuance, individual permits must be public-noticed for a period of at least 30-days. The Department must respond to all comments received during this public notice period. Although the Department must consider the effects of issuing a permit, including generation of odors, flies, and dust, the permit regulates the discharge and disposal of wastes.

### *Rule Clarification*

**Comment #4:** “Page 32, last paragraph. The bullets on records mean daily or weekly inspections. I have concern that records of daily inspections of water lines, including drinking water or cooling water lines, should be required. How detailed are these inspections – is it to see that the water areas are working, or is it a complete run of the lines? This may be too frequent or burdensome to require in records. Consider monthly reports vs. daily or weekly inspections.” Gene Surber, Montana State University Extension Service

“Section 7: Recordkeeping Requirements, page 32. Under Additional Recordkeeping, the first bullet describes ‘Records of weekly inspections of storm water diversion devices, runoff diversion structures...’ The NRCS believes that the weekly requirement is excessive. The NRCS Operation and Maintenance (O&M) requirements for such devices states that they will be checked in spring and fall, and after every storm or runoff event. In reality, it is only during flow or runoff events that such water related structures may incur damage, so the requirement for routine inspections based on absolute frequency is unnecessary and not practical in our opinion. We suggest that the inspection frequency be changed to a more practical basis. We concur with the inspection frequencies for other aspects of production areas.” Dave White, Natural Resource Conservation Service

**Response #4:** The required records and inspection frequencies listed in proposed circular DEQ 9 are part of the revised federal requirements. Under these revised regulations, CAFOs must inspect water lines daily, including drinking water and cooling water lines, to ensure they are not leaking. The purpose of these inspections is to ensure that leaks from these lines are not reducing the volume capacity of the waste control facility or resulting in an unauthorized discharge.

Weekly inspections are required for all storm water diversion devices, runoff diversion structures, and devices that channel contaminated storm water to the wastewater and manure storage and containment structures. These inspections help ensure that the devices and structures are free from debris and remain in good working condition. These records are necessary so that CAFO operators can demonstrate that any overflows that do occur are consistent with the proper operation and maintenance of their waste control facility.

While there is no specific format or inspection data sheet required for these inspections, the Environmental Protection Agency has developed sample records that can be found at the following website: <http://cfpub.epa.gov/npdes/afo/info.cfm#fundingsources>. These sample records should provide direction to producers as to the level of detail required.

**Comment #5:** “Page 33, Annual Reporting Requirements, 1<sup>st</sup> paragraph, 4<sup>th</sup> and 5<sup>th</sup> bullets. These seem to be repetitious. One or the other could be used, but not both.” Gene Surber, Montana State University Extension Service

**Response #5:** The annual reporting requirements come directly from the revised federal regulations. Permit holders are required to report the total number of acres covered under

the Nutrient Management Plan and the total number of acres that were used for the land application of waste during the previous 12 months; one may be a subset of the other.

**Comment #6:** “Page 34, 1<sup>st</sup> bullet. It asks for statement whether the nutrient management plan was developed or approved by a ‘certified nutrient management planner.’ Is this nutrient management plan required to be done by a certified nutrient management planner?” Gene Surber, Montana State University Extension Service

**Response #6:** Nutrient Management Plans do not need to be developed or approved by a certified nutrient management planner. Under the revised federal regulations, however, it is required that permit holders report whether or not a certified nutrient management planner was used. For clarification, the following statement has been added to the circular: “(Note: Nutrient Management Plans are **not** required to be developed or approved by a certified nutrient management planner.)”

**Comment #7:** “17.30.1322.7.b Is a monthly water balance acceptable vs. daily or yearly?” Roger Perkins, PE, Aquoneering

**Response #7:** The Administrative Rules of Montana (ARM) 17.30.1322.7.b is an existing rule which specifies that a water balance be determined if appropriate for the proposed activity; monthly, daily, and yearly water balances are all acceptable. The only change being proposed to the Administrative Rules of Montana (ARM) 17.30.1322.7.b is a formatting change to comply with the Secretary of State’s formatting standards.

**Comment #8:** A representative for the Montana Dairy Association explained that most dairy operations in the state of Montana fall within the medium sized animal feeding operation category. The representative asked that there be more clarification to producers as to who is required to have a permit and who is not. August 12, 2004 Stakeholder Meeting in Helena, MT

**Response #8:** Under the proposed rules, all CAFOs have a duty to seek coverage under a Montana Pollutant Discharge Elimination System (MPDES) permit. The proposed definition for concentrated animal feeding operations comes directly from the revised federal regulations. Medium-sized dairy operations are considered concentrated animal feeding operations when they confine between 200 and 699 mature dairy cows and meet one of the following “method of discharge” criteria: pollutants are discharged into state waters through a man-made ditch, flushing system, or other similar man-made device; or pollutants are discharged directly into state waters which originate outside of and pass over, across, or through the facility or otherwise come into direct contact with animals confined in the operation.

Unlike the federal regulations, Montana’s definition of state waters includes ground waters. Therefore, some operations meet the definition of a medium sized CAFO due to the subsurface conditions at their site resulting in a discharge to state waters. These types of permitting situations are handled on a case-by-case basis; Department staff is available to conduct an on-site visit to determine whether permit coverage is necessary.

**Comment #9:** “17.30.1330.2.f Many feedlots utilize an overflow watering system to prevent freezing in the winter months. This water is relatively clean as it is collected in

the waterer itself and does not come in contact with manure. Typically this water is collected in a pipe and transported to a nearby drainage. We need better definition of when overflow water becomes “process wastewater”. A considerable volume of overflow water is generated over the course of a year and containment or treatment of this water is difficult; not necessary?” Roger Perkins, PE, Aquoneering

“DEQ 9 Page 35 Overflow from watering systems should be considered clean water if the water does not come in contact with manure but is piped away from the waterer.” Roger Perkins, PE, Aquoneering

**Response #9:** The proposed definition of process wastewater comes directly from the revised federal regulations and includes spillage or overflow from animal or poultry watering systems. For clarification, if the overflow water is piped out of the production area and does not come in contact with animal waste, then it is not considered process wastewater and will not be required to meet the applicable technology based effluent limitations. Any overflow water that comes in contact with animal waste, though, is considered process wastewater and must be included in the capacity calculations for containment.

**Comment #10:** “17.30.1330.5 Need clarification as to whether existing operations expanding beyond the 300 or 1000 AU cutoffs have to follow the post April 14, 2003 rules for the entire feedlot or just the expansion itself.” Roger Perkins, PE, Aquoneering

**Response #10:** Under the revised federal regulations, new source performance standards have been established for large swine, poultry, and veal calf CAFOs. These new source performance standards apply to the entire production area and require waste management and storage facilities to be designed, constructed, operated, and maintained to contain all process wastewater and direct precipitation from a 100-year, 24-hour rainfall event. These new source performance standards are applicable only to new sources. A CAFO is a new source if construction began after April 14, 2003, on a site where no other source is located or in certain expansion situations. Specifically, an expanded operation would be considered a new source if the process or production equipment is totally replaced, or if new processes are added that are substantially independent of an existing source at the same site. Typically, expanding operations are considered new dischargers rather than new sources. New dischargers are not required to follow new source performance standards.

**Comment #11:** A producer inquired whether multiple permits for different animal types would be required. August 12, 2004 Stakeholder Meeting in Helena, MT

**Response #11:** Under the revised federal regulations, when a single animal type meets the threshold for being defined as a CAFO, all the confined animals on that operation are regulated. Generally, a single permit can be issued for the entire operation (multiple animal types). If separate waste disposal structures are used for the different animal types, then the permit may include multiple outfalls.

**Comment #12:** “Page 36, ‘Vegetated Buffer’. ‘Dense’ is an un-definable term and I would recommend that it be deleted.” Gene Surber, Montana State University Extension Service

**Response #12:** The definition of vegetated buffer comes directly from the revised federal regulations. To maintain consistency with the federal regulations, no changes will be made.

### *Design Criteria*

**Comment #13:** “DEQ 9 Page 7 For pond evaporation, we often use the Publication: ‘Estimation of Evaporation from Shallow Ponds and Impoundments in Montana’, Donald Potts, Miscellaneous Publication No. 48, March 1988, School of Forestry, University of Montana.” Roger Perkins, PE, Aquoneering

“Page 7 of 41, Item 3. I use 1 inch per month of evaporation/sublimation of pond surfaces in the winter if a heavy crust is not expected. Joe Caprio, MSU Climatologist suggested a minimum of 7 inches for November through April FWS evaporation. Ref: NOAA Technical Report NWS 33, June 1982” David J. Jones, PE, DJ Engineering

**Response #13:** Given the number of acceptable sources for this information, the Department proposes to amend the circular to say, “...(or other equivalent reference as approved by the Department).”

**Comment #14:** “DEQ 9 Page 35 The ‘Rainfall Frequency....Atlas...’ is dated. More current data can be found in the USGS and DNRC publication: ‘Regional Analysis of Annual Precipitation Maxima in Montana’, WRI Report 97-4004, March 1997.” Roger Perkins, PE, Aquoneering

**Response #14:** The revised federal regulations define a 25-year, 24-hour rainfall event and a 100-year, 24-hour rainfall event as the mean precipitation event with a probable recurrence interval of once in twenty five years, or one hundred years, respectively, as defined by the National Weather Service in Technical Paper No. 40, “Rainfall Frequency Atlas of the United States,” May, 1961, or equivalent regional or State rainfall probability information developed from this source. Therefore, in order to maintain consistency with the federal regulations, the Department proposes to amend the circular to say, “...(or other equivalent regional or state rainfall probability information developed from this source).”

**Comment #15:** “DEQ 9-Page 6 B Can an intermittent drainage be used for waste containment if upstream flows greater than 24-hour, 25-year are diverted around the storage area, up to the 100-year inflow flood.” Roger Perkins, PE, Aquoneering

**Response #15:** State waters is defined as a body of water, irrigation system, or drainage system, either surface or underground. Therefore, intermittent drainages are considered state waters. The Department may approve this design on a case-by-case basis. In doing so, the Department would need to determine that all applicable water quality standards and permit conditions would be satisfied. In addition, the applicant would be required to comply with all other applicable state and federal statutes including obtaining a U.S. Army Corps of Engineers 404 permit.

**Comment #16:** “Page 10, 2<sup>nd</sup> paragraph. ‘The minimum slope length for applied wastewater is 100 feet.’ There is no regard given to the degree of slope, soil type, or vegetation, which would allow for something less than or greater than 100 feet depending on the characteristics at the site. Research by Bauder, Fashing and Cash, MSU, found that filter strips greater than 30 feet had no significant increase in effectiveness between 40 and 100 feet; therefore, I question the value of requiring 100 feet on every site.” Gene Surber, Montana State University Extension Service

**Response #16:** In establishing the design criteria listed in proposed circular DEQ-9, the Department adopted established industry design standards. The requirement for a 100-foot minimum slope length comes from NRCS Code 635 Wastewater Treatment Strip. However, given the results of the referenced research, the Department proposes to amend the circular to say, “The minimum slope length for the applied wastewater is 40 feet.”

**Comment #17:** “DEQ 9-Page 6 B Wells used exclusively for watering the livestock in the facility should be excluded from the 500 foot separation requirement.” Roger Perkins, PE, Aquoneering

“Pate 6, B. Waste Storage Structures – Location, Item 4. ‘Wastewater containment structures or manure and wastewater disposal sites may not be located within 500 feet of existing water wells.’ My concern is the Administrative Rules of Montana 36.21.638 says, ‘100 feet is minimum distances for new well construction from septic tank drain fields and cesspools.’ Therefore, I question the 500 feet as being an excessive requirement.” Gene Surber, Montana State University Extension Service

**Response #17:** 75-5-605, MCA, states “(1) It is unlawful to: ...(c) site and construct a sewage lagoon less than 500 feet from an existing water well.” This setback requirement is already in statute. The Department does not have the authority to change this requirement based on water usage. However, less restrictive setbacks for certain types of waste control facilities such as wastewater treatment strips can be considered. In those cases, the Department anticipates a case-by-case deviation would be the most appropriate way of addressing the issue.

**Comment #18:** “One additional issue that I feel should be addressed deals with the need for a statement granting ‘Grandfather Rights’ to operations that have been operating under the present rules and have no violations. For example, those facilities already in existence that may have waste containment structures closer than 500 feet to a well, are they automatically in violation or is there a provision to allow for their continued operation? Maybe they will need well water analysis information in their records, but I don’t feel they should have to abandon a well and re-drill another.” Gene Surber, Montana State University Extension Service

**Response #18:** As stated above, 75-5-605, MCA, states “(1) It is unlawful to: ...(c) site and construct a sewage lagoon less than 500 feet from an existing water well.” This setback requirement was adopted on April 13, 1993 by the state legislature and became effective October 1, 1993. Although the statute prohibits siting and constructing sewage lagoons less than 500 feet from an existing water well, it does not prohibit a person from operating an existing sewage lagoon. Therefore, the Department proposes to amend the circular as follows, “Wastewater containment structures or the manure and wastewater

disposal sites constructed after October 1, 1993, may not be located within 500 feet of existing water wells.”

**Comment #19:** “The overland flow treatment does not have a stipulation for plant removal. Nutrients will accumulate in plant tissue, eventually decreasing the plant’s nutrient removal capacity. Recommendation: Include a minimum recommended frequency of mowing or harvesting (once per year may be sufficient).” Clain Jones, Montana State University

**Response #19:** The Department agrees that periodic plant removal is necessary for proper operation and maintenance of wastewater treatment strips. However, rather than establish a minimum frequency of mowing or harvesting, the Department will expect this issue to be addressed in a facility’s site-specific operation and maintenance plan.

**Comment #20:** “DEQ 9-Page 6 B Can seepage loss be based on laboratory testing in the case of bentonite lining or is a field test required. Are monitoring wells an option for monitoring performance? Need direction as to the field test procedure, e.g., length of test, correction for evaporation, use of instrumentation such as permeameters etc.” Roger Perkins, PE, Aquoneering

**Response #20:** Seepage loss can be based on laboratory testing. Additionally, monitoring wells can and will be used to monitor performance if ground water impacts are a concern. Any ground water discharge requirements will be addressed in the facility’s permit.

**Comment #21:** “Page 10, 3<sup>rd</sup> paragraph. It states ‘areas may not exceed 8% slope.’ I feel there should be a case-by-case evaluation given to this. In some cases, a 15% slope in some very arid climates with proper vegetation and diversions, which are distant from state waters could contain an effective waste management system.” Gene Surber, Montana State University Extension Service

**Response #21:** The Department agrees that there are instances when a 8% slope is exceeded and yet, the waste management system is still effective. However, as stated in the proposed circular, the purpose of the design criteria is to define limiting values for items upon which the Department will make an evaluation of plans and specifications; and to establish, as far as practicable, uniformity of practice. The Department specifically included a provision to allow deviations from the design criteria on a case-by-case basis to address site-specific factors. The Department anticipates that situations such as proposed would be dealt with through the approved deviation from design criteria.

**Comment #22:** “p.9, 5<sup>th</sup> paragraph from top and 2<sup>nd</sup> paragraph from bottom. ‘The anticipated nutrient loading may not exceed the vegetation’s agronomic nutrient requirement as determined by the state’s technical standards’ and ‘The nutrients anticipated to infiltrate the treatment strip may not exceed the vegetations’ agronomic nutrient requirements.’ a. The above requirements do not account for losses other than plant uptake, such as denitrification, N immobilization, NH3 volatilization, or mineral P precipitation. Therefore, plants will be receiving less than optimal nutrient loads, causing poor water uptake, possible weed invasion, and eventually less nutrient removal.



Recommendation: Insert the work ‘plant-available’ between ‘anticipated’ and ‘nutrient’ to account for the above nutrient losses.” Clain Jones, Montana State University

“Page 9, Rapid Infiltration Treatment, 5<sup>th</sup> paragraph. This statement does not take into account the effects of climatic, geographic and other ecological effects on nutrients, i.e., nutrients react with other elements that make them unavailable to agronomic crops; therefore, nutrient application should not be just limited to ‘vegetation’s agronomic nutrient requirements.” “Page 9, Overland Flow Treatment, paragraph 3. Same as paragraph 5 above.” Gene Surber, Montana State University Extension Service

**Response #22:** Application rates for manure, litter, and process wastewater must minimize the transport of nutrients to state waters. The state’s technical standards already take into account nutrient losses such as mineralization, volatilization, etc. Therefore, the Department will amend the circular so that the requirements for both the Rapid Infiltration Treatment and Overland Flow treatment state, “The anticipated nutrient loading may not exceed agronomic rates as determined by the state’s technical standards listed in Section 6 of this circular.”

**Comment #23:** “DEQ 9 Page 9 There needs to be clarification as to when N or P controls agronomic nutrient loading. Additionally, we would like to see a provision for storage of P in the root zone such that concentrations do not exceed 200 ppm by weight in 50 years; similar to domestic onsite wastewater treatment rules.” Roger Perkins, PE, Aquoneering

**Response #23:** The state’s technical standards for nutrient management listed in Section 6 of the proposed circular outline two methods for determining whether N or P controls the agronomic nutrient loading. These two methods include using the results of a soil sample or the Phosphorus Index. Storage of P in the root zone so that concentrations do not exceed 200 ppm by weight in 50 years may be allowed on a case-by-case basis.

#### *Best Management Practices*

**Comment #24:** “DEQ 9 Page 18 We would like to see the requirement dropped that animals be prohibited from entering waste containment structures. For example, goats can be grazed in these areas for weed control. Also their hoofs compact the surface soil of a clay lined pond.” Roger Perkins, PE, Aquoneering

**Response #24:** Under the revised federal regulations, waste containment structure(s) must be properly designed, built, operated, and maintained. In most cases, proper operation and maintenance includes prohibiting animals from entering the waste containment structures and their dikes. Therefore, rather than eliminate this requirement, the Department proposes to amend it as follows, “Animals must be prohibited from entering into waste containment structures or their dikes, unless expressly stated in a facility’s Operation and Maintenance plan and approved by the Department.”

**Comment #25:** “Page 19, Land Application Area Requirements, Section 3. ‘Manure may not be stockpiled for more than twelve months.’ In my opinion this statement is not needed. In some situations stockpiling manure on properly constructed areas may be

safer environmentally than improper land application when land may be in the wrong cropping sequence.” Gene Surber, Montana State University Extension Service

**Response #25:** The Department agrees there are situations when stockpiling manure more than 12 months may be unavoidable. Therefore, the 12-month restriction is being removed from the circular. It is important to note, however, that under the revised federal regulations the manure storage area is considered part of the production area and therefore, must be managed so that runoff is contained up to the applicable storm event and permitted accordingly.

**Comment #26:** “Page 19, 3<sup>rd</sup> and last section, Production Area Requirements. ‘If applicable, the producer shall take precautions while agitating the pond to ensure that the liner is not damaged.’ How can this be a regulated statement? It should, however, be a recommended practice. If this statement is going to remain in there, replace ‘shall’ with ‘should’.” Gene Surber, Montana State University Extension Service

**Response #26:** The applicable effluent limitation guidelines require waste control structures to be properly maintained. Taking precautions to ensure that a pond liner is not damaged while agitating is part of proper maintenance. Therefore, the requirement will not be changed.

**Comment #27:** “Page 16, Item 6. The statement of ‘prohibited from direct contact with state waters’ should read ‘managed to control contact with state waters.’” Gene Surber, Montana State University Extension Service

**Response #27:** This Best Management Practice comes directly from the revised federal regulations. Under these regulations, animals are prohibited from direct contact with state waters.

**Comment #28:** “Section 4. ‘Land to be irrigated should have a slope less than 6%,’ Need clarification, is this for wastewater application treatment or is this for solid manure application? Solids applied to land that will be irrigated later in the year but has vegetation on it may still be a very practical use of the solids manure.” Gene Surber, Montana State University Extension Service

**Response #28:** The Department proposes to eliminate this Best Management Practice. It is already stated that, “Wastes must be applied so as to prevent any pollutant from such materials from entering state waters.” As such, this BMP is not necessary.

**Comment #29:** “Section 4, Best Management Practices, pages 19 and 20. Land Application Area Requirements narratives state that for application of dry or solid manure on frozen or snow-covered ground, the producer ‘may not apply manure on land with slopes greater than 4%.’ This information is not consistent with NRCS standards. On page 3 of the attached NRCS Nutrient Management Standard (590) under Nutrient Application Methods, runoff risk on snow-covered and frozen ground is to be evaluated using the revised RUSL Equation (RUSLE) with site specific data. Runoff risk is considered negligible if slope is less than two percent (2%) or the calculated soil loss prediction from water is less than 5 T/A/Y. While we agree that manure application on frozen or snow-covered land is to be avoided, the use of a site specific tool to evaluate

risk seems more reasonable and provides conservatively protective and science-based flexibility to producers and regulators as opposed to sole use of a uniform slope value.”  
Dave White, Natural Resource Conservation Service

**Response #29:** The Department proposes to eliminate this Best Management Practice. It is already stated that, “Wastes must be applied so as to prevent any pollutant from such materials from entering state waters.” As such, this BMP is not necessary.

**Comment #30:** “Regarding when frozen or snow-covered application is ‘absolutely necessary’ and the requirements that then apply; we believe that it is better for all application situations to be evaluated in the waste management plan to include worst case, crisis applications. Pre-evaluating these conditions and determining appropriate ‘crisis’ disposal sites ahead of time will avoid confusion and result in better compliance.”  
Dave White, Natural Resource Conservation Service

**Response #30:** The Department encourages producers to address these types of situations in their Nutrient Management Plans.

**Comment #31:** “p. 20, next to last sentence. ‘The land application rates of ...wastes must not exceed agronomic uptake rates for nutrients.’ By definition, more nutrients must be applied than the crop can take up to maximize yield because of losses such as denitrification, N immobilization, and calcium phosphate precipitation. More importantly, this sentence contradicts the table on p. 26 which allows more P to be applied than the crop needs of Olsen P is less than or equal to 25 ppm (meaning the application is based on N, not P). Recommendation: This sentence needs to be rewritten with ‘must’ replaced by ‘should’ or the wording added to reflect that rates are based on tables on p. 25 or p.26 and that nutrient losses can be considered.” Clain Jones, Montana State University

“The second to last sentence reads ‘...must not exceed agronomic uptake rates for nutrients.’ This statement may create some confusion since in the case of phosphorus, multi-year applications are permitted under certain conditions (Section 6, page 30, Multi-Year Phosphorus Application Rate).” Dave White, Natural Resource Conservation Service

**Response #31:** Application rates for manure, litter, and process wastewater must minimize the transport of nutrients to state waters. The state’s technical standards already take into account nutrient losses such as mineralization, volatilization, etc. The Department is amending the statement to say, “The land application rates of solid manure, liquid manure, or other solid or liquid wastes must not exceed agronomic rates for nutrients, except as specified in multi-year phosphorus applications.”

**Comment #32:** “p. 20, last sentence. ‘Wastes must be applied so as to prevent any pollutant from such materials from entering state waters’. This requirement appears unrealistic and is more restrictive than other state laws that do not allow degradation. Pollutants can, and do, enter state waters without causing pollution. For example, water that percolates through a field applied with manure will likely have measurable levels of nitrate-N, yet may have levels that are below the current groundwater nitrate-N concentration. In this situation, the producer would be out of compliance as I read the

sentence, yet the groundwater would not be degraded. Manure that is surface applied and dries out will be subject to wind erosion in this state, thereby pollutants from land-applied manure can enter state waters, but won't necessarily degrade state waters. This requirement, and the requirements listed in 2 above, appears to be more restrictive than for those using commercial fertilizer, thereby potentially discouraging the beneficial reuse of manure. Recommendation: Change 'must' to 'should' or change 'any pollutant from such materials from entering' to 'degradation of'." Clain Jones, Montana State University

**Response #32:** The Montana Pollutant Discharge Elimination System (MPDES) regulates point sources that discharge pollutants into state waters. Concentrated Animal Feeding Operations, which includes both the production area and land application area(s), are by definition point sources subject to the MPDES permit system. Other agricultural operations are often considered non-point sources of pollution, and therefore, are not subject to the MPDES permit program. Under the revised federal regulations, the discharge of pollutants to state waters from a CAFO resulting from the land application of the manure, litter, or process wastewater, is subject to MPDES permit requirements, except where it is an agricultural storm water discharge. Therefore, discharges of pollutants to state waters from land application sites are not allowed.

#### *Nutrient Management*

**Comment #33:** "Attachments 4 and 5: NRCS Conservation Practice Standards and Specifications (590 & 633). NRCS periodically reviews and updates our standards to incorporate new technology and research. We recommend that the DEQ Circular 9 Montana Technical Standards for CAFOs be structured to provide reference to the current NRCS Conservation Practices in Section IV of the field Office Technical Guide. Such Reference will avoid making the document static and allow consumers to access the current information at any time. The URL link to the current electronic versions of Conservation Practice Standards and other related documents in each county level FOTG is: [http://efotg.nrcs.usda.gov/efotg\\_locator.aspx?map=MT](http://efotg.nrcs.usda.gov/efotg_locator.aspx?map=MT)" Dave White, Natural Resource Conservation Service

**Response #33:** Because the proposed circular DEQ 9 will be adopted by reference into the Administrative Rules of Montana, the Department does not have the ability to adopt "live" documents into the circular. However, NRCS is encouraged to periodically notify the Department of any significant changes to these documents; through a formal rules changes process, the proposed circular DEQ 9 may be updated as deemed appropriate by the Department.

**Comment #34:** "Section 3: Nutrient Management Plan, page 16. Minimum elements required, Item 7 indicates that '...any chemicals and other contaminants handled on-site' must be addressed in the NMP. We suggest added clarification as to whether all chemical associated with the operation must be included or only those associated with the CAFO must be included." Dave White, Natural Resource Conservation Service

**Response #34:** The revised federal regulations require all CAFOs to develop and implement Nutrient Management Plans that, "ensure that chemicals and other contaminants handled on-site are not disposed of in any manure, litter, process

wastewater, or storm water storage or treatment system unless specifically designed to treat such chemicals and other contaminants.” Therefore, all chemicals associated with the facility must be managed appropriately.

**Comment #35:** “...page 17 reads, ‘A list of certified nutrient management planners in the state of Montana can be obtained through the Natural Resource Conservation Service.’ Since NRCS only certifies individuals for the development of Comprehensive Nutrient Management Plans (CNMP), as opposed to Nutrient Management Plans, the nomenclature should be changed to reflect this fact. A list of CNMP certified individuals is available online at: <http://techreg.usda.gov/CustLocateTSP.aspx>” Dave White, Natural Resource Conservation Service

**Response #35:** The Department had amended the circular as suggested.

**Comment #36:** “p. 26 a. Nutrient Needs It’s not clear whether to use fertilizer guidelines (Tables 1-20) or crop uptake amounts (Table 21). Also because these are *average estimates* of fertilizer requirements for major MT crops, some flexibility should be given for specialty crops not included in the guidelines and for regional and climatic differences which can affect nutrient needs as pointed out on p. 3 of the Guidelines. Recommendation: Be clear that the producer should use fertilizer needs (Table 1-20) of Fertilizer Guidelines (which for high levels of Olsen P, then direct user to Table 21). Allow producer to prove that actual crop nutrient requirements are different than shown in guidelines, or change ‘must be used’ to ‘should be used’.” Clain Jones, Montana State University

**Response #36:** CAFOs are required to apply nutrients at agronomic rates. Montana State University Educational Bulletin #161, “Fertilizer Guidelines for Montana Crops” has been included in the proposed circular in order to establish technical standards for nutrient management. The Department has proposed to adopt this bulletin in its entirety, including references to tables and provisions to adapt fertilizer rates for site-specific factors. Therefore, the Department does not find it necessary to provide additional directions in the proposed circular. However, for situations not covered in EB #161, the Department has amended the circular to say, “For crops not listed in this bulletin, the Department may approve the use of site-specific information to determine fertilizer rates.”

**Comment #37:** “Page 35, 2<sup>nd</sup> paragraph. The last sentence states ‘no additional manure, litter or processed wastewater is applied to the same land in subsequent years until it has been removed from the field via harvest and crop removal.’ I would recommend that the multi-year phosphorous application be done in accordance to soil tests rather than a no subsequent year application.” Gene Surber, Montana State University Extension Service

**Response #37:** The definition of a multi-year phosphorus application is taken directly from the revised federal regulations. This definition specifies phosphorus from the field be removed via harvest and crop removal. Therefore, to maintain consistency with the federal regulations, no change will be made.

**Comment #38:** A producer from the Shepherd area explained that the soils at his land application sites are phosphorus limited. Under the proposed technical standards for

nutrient management, he did not feel confident that he would have the available land to dispose of generated waste. August 12, 2004 Stakeholder Meeting in Helena, MT

**Response #38:** Under the revised federal CAFO regulations, states with delegated permitting programs are required to establish technical standards for nutrient management that minimize phosphorus and nitrogen transport from the field to state waters. The technical standards outlined in proposed DEQ Circular 9 include two different methods for conducting a field-specific assessment to determine the potential for nitrogen and phosphorus transport. The results of the field-specific assessment are used to determine if manure, litter, and/or process wastewater should be land applied based on the nitrogen needs of the crop, on phosphorus crop removal, or whether land application to the field(s) should be avoided. Two risk assessment methods have been included in order to provide flexibility to producers; these two methods include analyzing soil samples for Olsen P or conducting a Phosphorus Index assessment. Tables included in the circular indicate which basis for land application rates should be used based on the results of the soil test or Phosphorus Index (PI) rating.

It is important to note that the results of these two risk assessment methods are not always the same. The soil test does not take into account such factors as soil erosion, runoff class, application methods and rates, or distance to surface waters. It is recommended that the producer conduct a PI assessment on each field to determine if nitrogen-based application will be allowed. Applying fertilizer P and manure closer to crop uptakes, injecting or incorporating manure, applying manure farther away from areas where surface water runoff concentrates, and utilizing buffers to protect downslope areas can reduce the PI rating, and thus allow waste to be applied based on the nitrogen needs of the crop. Additionally, the proposed technical standards allow for multi-year phosphorus applications in some instances. In these cases, phosphorus is applied to a field in excess of crop needs for the year. No additional manure, litter, or process wastewater is applied to the same land in subsequent years until the applied phosphorus has been removed from the field via harvest and crop removal.

If both risk assessments show that phosphorus based applications or no applications are allowed, it may be necessary for the producer to find additional land application sites or alternative waste disposal methods such as composting and landfill disposal. Each permit can include appropriate flexibilities to allow the producer a phased implementation of the phosphorus-based nutrient management.

**Comment #39:** Circular DEQ 9 Page 18, Table 2. 3<sup>rd</sup> Year After Application Fraction Available. “These are so small compared to other potential errors in method, I’d recommend excluding for simplicity.” Clain Jones, Montana State University

**Response #39:** The Department agrees and is amending the table to include fractions available after 1<sup>st</sup> and 2<sup>nd</sup> year applications only.

**Comment #40:** “Page 16, ... Item 10, b. There is no specification in how far down gradient surface waters must be mapped, i.e., is it a quarter of a mile or 5 miles?” Gene Surber, Montana State University Extension Service

**Response #40:** The required Best Management Practices specify that a 100 foot buffer zone (or 35-foot vegetated buffer zone) be maintained between any land application sites and downgradient surface waters, open tile line intake structures, sinkholes, agricultural wellheads, or other conduits to surface waters. Therefore, it is expected that the nutrient management plan will include the necessary map(s) to demonstrate that these setback distances (or other applicable Best Management Practices) are being maintained. Additionally, the application requirements listed in ARM 17.30.1322 requires the submittal of a topographic map of the geographic area in which the CAFO is located including the production area and land application areas extending one mile beyond the property boundaries of the source.

**Comment #41:** “Page 16, ... Item 10, f. There is a need to define what a “field-specific assessment” amounts to.” Gene Surber, Montana State University Extension Service

**Response #41:** A field specific assessment is required under the state’s technical standards for nutrient management. Under these technical standards, one of two methods for evaluating the potential for phosphorus and nitrogen transport from the field to state waters is provided: the Phosphorus Index or the results of an Olsen P soil test. These state technical standards for nutrient management are applicable to large dairy cow, cattle, swine, poultry, and veal calf CAFOs. To provide clarity, the Department proposes to amend the circular to say, “A field-specific assessment of the potential for nitrogen and phosphorus transport from the field to state waters as described in the state’s technical standards, if applicable.”

**Comment #42:** “Page 17, last paragraph, last sentence. Indicates certified nutrient management planners are available through the NRCS. I suggest that a list of certified crop advisors be available.” Gene Surber, Montana State University Extension Service

**Response #42:** The Department intends that the proposed circular DEQ 9 be a useful document for producers. As such, the circular will be amended to include a reference to certified crop advisors.

#### *Waste Generation, Sampling, and Calibration*

**Comment #43:** “Section 2: Calculating Waste Production, pages 13 and 14. The table entitled “Daily Manure Production Table, as excreted (per head per day)” contains volumetric values that differ from design values in NRCS references by a fairly wide margin. Use of NRCS values will result in considerably undersized storage facilities compared to the values in Section 2. We recommend that the discrepancy be investigated or other wise explained to avoid confusion and misleading direction. Also, if the table cannot be produced on a single page, the column headers should be duplicated on the second page.” Dave White, Natural Resource Conservation Service

**Response #43:** The Department does not intend to limit producers to the table provided in Section 2 of the proposed circular. This table is from Midwest Plan Service’s “Manure Characteristics”, MWPS-18 Section 1, Second Edition (appropriately referenced in the revised circular) and has been provided for informational purposes only. As stated in the circular, “Although other approaches to calculating waste production are acceptable, this

method is provided in order to assist producers in determining a rough estimate of the amount of waste produced on-site.”

**Comment #44:** “Section 5: Sample Collection and Calibration Procedures, page 21. Sampling Solid Manure – step 3, indicates that a one-gallon sample should be collected. Most authorities state that a composite sample size of about one-quart is adequate. Often, a one-gallon plastic bag is recommended for use in hand collecting the composite sample. This similarity may be the source of the discrepancy.” Dave White, Natural Resource Conservation Service

**Response #44:** The suggested sample size is an estimate only. Actual sample requirements will be dictated by the laboratory to ensure accurate analysis. Therefore, no change will be made to the proposed circular. Producers are expected to consult with their laboratory for specific sampling requirements.

**Comment #45:** “Page 21, Sample Collection and Calibration Procedures. There seems to be some confusing information in this section as to whether the manure is collected and analysis returned before any manure is applied or when the tank spreader is being loaded.” Gene Surber, Montana State University Extension Service

**Response #45:** Manure should be sampled and analyzed before it is land applied to ensure that application rates do not exceed the calculated agronomic rates. The sample should be collected as close to the time of land application as possible in order to provide the best information about its fertilizer value. Liquid manure should always be agitated before sampling in order to obtain a representative sample. The Department has amended this section of the proposed circular to provide clarity.

**Comment #46:** “Page 22, Sampling Soil section, Item 1. It suggests removing crop residues from the soil surface before sampling, however, this is part of the organic matter and if heavy residues are on the surface it would seem that it should be part of the analysis.” Gene Surber, Montana State University Extension Service

**Response #46:** A representative soil sample must be collected to aid in calculating agronomic rates. Some laboratories recommend removing crop residues before sampling, others do not. Although the Department is removing this suggested practice from the circular, producers are still expected to consult with their laboratory to determine proper sampling methods. Additionally, adjustments to the recommended fertilizer rates based on the organic matter content of the soil should be made as detailed in the Montana State University Educational Bulletin #161, “Fertilizer Guidelines for Montana Crops’.

**Comment #47:** “Section 5: Calibrating Spreaders, page 23. Load Area Method describes a three-step process. Step 2 describes measuring the full width of the spreader pattern and then to allow for overlap of adjacent passes. The NRCS recommends that the spread width factor in Step 2 be based on the distance between travel lanes used for the spreader application in the field. This step inherently compensates for overlap in estimating the width of uniform applications. If adjusted as we have suggested, the formula shown below should also be altered.” Dave White, Natural Resource Conservation Service



**Response #47:** To simplify the procedure description, the Department will amend the circular as suggested.

**Comment #48:** “Page 23, Load Area Method. In the absence of a scale for determining the solid manure, one could use volume and density estimates in order to come up with an estimated figure.” Gene Surber, Montana State University Extension Service

**Response #48:** The Department agrees alternative methods for determining weights and application rates are appropriate. The following statement has been added to the circular, “If a scale is not available, volume and density estimates can be used to determine the approximate weight.”

*Format, Spelling, Grammar*

**Comment #49:** A few grammatical, duplication, and spelling errors were noted.

**Response #49:** The Department has made the appropriate changes to spelling, duplication, and grammar in the draft circular.